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System And Method Of Visually Constructing A Progressively Downloadable Application

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SYSTEM AND METHOD OF VISUALLY CONSTRUCTING A PROGRESSIVELY DOWNLOADABLE APPLICATION

ABSTRACT

A system and method are disclosed to visually construct a progressively downloadable application. The system may be configured to record a session of an application running on a user device. The system may then generate a visual timeline of the application session and provide the timeline to a developer. The developer may mark points on the visual timeline to demarcate downloadable segments of the application separately. The demarcated segments of the application may be packaged to develop a progressively downloadable version of the original application. Further, the developer may export the new progressively downloadable version of the application to the user device. The method may also be embedded in a computer program product provided as a set of stand-alone developer tools, or as a plug-in to running on any development environment such as a game engine.

BACKGROUND

Progressive downloads allow users to access content before the download process is completed. Creating progressive downloads for applications requires application developers to track information associated with application assets, such as images, audio files, textures, and models. The information may include details about which assets of an application are being used and when such assets are used by users. Developers may use the information to package the assets into separate bundles to create the progressively downloadable application.

Generally, the process of creating progressively downloadable versions of applications is task-intensive and performed manually by the developers. Many developers may lack the skills and/or time to create such applications and consequently the number of developers that may adopt progressive download technologies may be limited.

DESCRIPTION

A system, a method, and a computer program product are disclosed to visually construct a progressively downloadable application. The system, as shown in FIG. 1, may include one or more servers **102** communicating with one or more developer systems **104** and multiple user devices **106**, connected over a network **108**. The one or more developer systems **104** may be used by developers for creating the progressively downloadable application. The one of more developer servers connected to the device are configured to store and process data relating to application assets, such as images, audio files, textures, and 3D models. The user devices **106** may be configured to run any application such as a gaming application. The progressively downloadable application is created based on the information obtained from user devices **106** through the servers **102**. The server **102** provides several mechanisms for creating the progressively downloadable application as illustrated in FIG. 2.

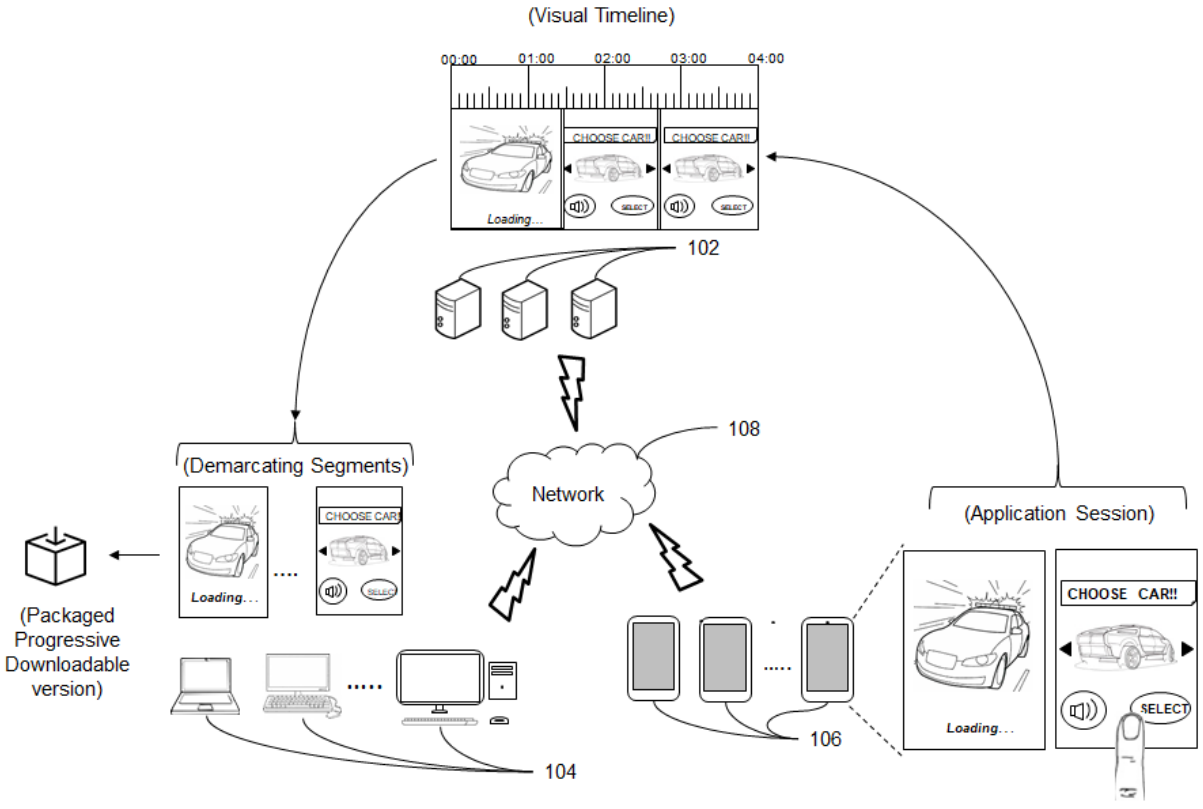

FIG. 1: A system for visually constructing a progressively downloadable application

The method, as illustrated in FIG. 2, of visually constructing a progressively downloadable application includes recording a session of an application running on the user device in block **202**. The recording may include tracking which application assets, such as images, audio files, textures, 3D models, are being used as well as when such assets are being used. The recording may also be used for tracking user activity, such as which buttons the user selected during the application session. In some aspects, a screen capture of the application session may also be created. A visual timeline of the application session is generated in block **204**. In some aspects, the frames of a screen capture of the recording may be displayed at the developer system **104** to a developer. In some aspects, a virtual timeline of the recording similar to the video timelines of non-linear video editing tools may be displayed at the developer system **104** to the developer. The developer may mark points on the visual timeline to demarcate downloadable segments of the applications separately in block **206**. In some aspects, the developer may mark segments of the timeline and associated application assets with a visual tool similar to construction of clips in a non-linear video editing suite. Further, the demarcated segments of the application may be packaged up to develop a progressively downloadable version of the original application in block **208**. In some aspects, the developer may, for each marked segment, also see how large the related assets are to guide further iterations of the sequentially downloadable series of packaged assets. Finally, the developer may export the application in its new progressively downloadable version to the user devices **106** via the server **102** in block **210**.

The computer program product may be provided as a set of stand-alone developer tools executing the above method. Further, it may be used as a plug-in that provides visual construction of progressive downloadable applications to third party Integrated Development Environments (IDEs), such as game engines.

In one example, the developer may use the computer program product similar to that in non-linear editing suites. The developer may record an application session. The recording tracks both user activity, such as the buttons the user hit, as well as what assets were used and when. The system creates a screen capture of the session. After the recording, the developer sees a visual timeline of the recording similar to video timelines of non-linear video editing suites, and marks segments of the timeline and associated assets to construct a sequentially downloadable series of packaged assets. The developer may mark the segment with a visual tool similar to the way users construct clips in a non-linear video editing suite. For each marked segment, the developer may also see how large the related assets are to guide further iterations of the sequentially downloadable series of packaged assets. At the end of the process, the developer exports the application in its new progressively downloadable form.

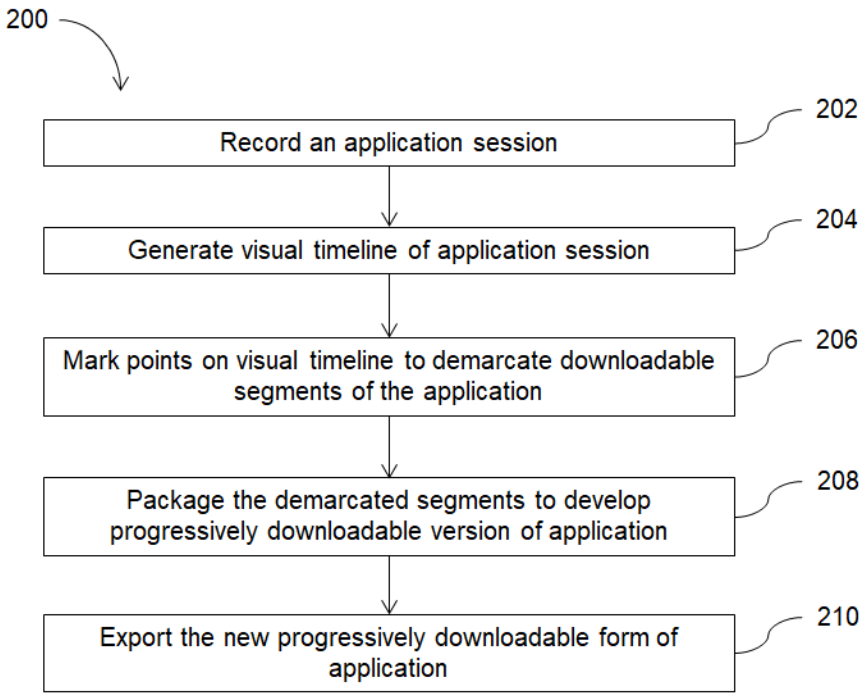

FIG. 2: A method of visually constructing a progressively downloadable application

The above disclosed method, system and computer program product greatly reduce the expertise and effort required to construct a progressively downloadable application. The disclosed system, method and computer program product enable effective developer adoption

of the platform framework, such as instant app framework. For example, a user would be able start using an application, such as a game, before all the code and assets are downloaded and continue using the application while remaining code and assets are downloaded. . Further, the disclosed method and system may be used as an industry standard way to construct progressively downloadable applications.